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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,742	11/08/2001	Shinji Inokuchi	214338	4941

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EXAMINER

EGAN, BRIAN P

ART UNIT PAPER NUMBER

1772

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/007,742

Applicant(s)

INOKUCHI ET AL.

Examiner

Brian P. Egan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. ('861) in view of WO 99/65957 (hereinafter WO '957) and Tokunaga et al. ('006). The Examiner notes that United States Patent No. 6,492,475 is the national stage application for WO '957 and will be used as the English translation for WO '957 – therefore, column and line number references for WO '957 will be in relation to the '475 patent.

Yamamoto et al. teach a laminate sheet comprising a copolymer of linear ethylene resin as a main component and an alpha olefin having 3 to 12 carbon atoms (see Abstract; Col. 2, lines 32-60). Yamamoto et al. further teach an eluted component at not more than 30°C of 3 wt.% - 30 wt% of the entire resin material, as measured by a TREF method (Col. 4, lines 24-37). The linear ethylene resin comprises 50 to 99% of the resin composition (see Abstract).

Although Yamamoto et al. fail to explicitly teach the use of the laminate sheet as a release liner, it was notoriously well known in the art at the time Applicant's invention was made that a linear ethylene/alpha olefin copolymer resin laminate sheet could be used as a release sheet for an adhesive substrate as evidenced by WO '957 (see U.S. '457 Abstract and Col. 4, lines 15-27). Therefore, depending on the desired end product, it would have been obvious to one of

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ordinary skill in the art at the time Applicant's invention was made to have used a linear ethylene resin laminate sheet as a release sheet for an adhesive substrate.

Yamato et al. also fail to teach an adhesive substrate in contact with the release sheet comprising a polyester or polyacrylate adhesive.

Tokunaga et al., however, teach the use of an adhesive layer on a silicone free polyethylene laminate sheet (Col. 11, line 65 to Col. 12, line 8) wherein the adhesive layer comprises a polyester adhesive with aliphatic polycarbonate diol as an essential polyol component (see Abstract; Col. 5, lines 12-27), and further comprises a polyacrylate component (Col. 7, lines 15-27 and Col. 9, lines 46-67). Tokunaga et al. teach the use of the aforementioned adhesive composition for the purpose of providing an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance (Col. 7, lines 38-47). Tokunaga et al. teach the use of a silicone free polyethylene laminate for the purpose of providing a release sheet that does not adversely affect adhesives that are ultimately used for electronic components while also providing a material that is excellent in recyclability (Col. 12, lines 25-36). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time Applicant's invention was made to have provided a silicone-free release sheet with a polyester adhesive with aliphatic polycarbonate diol for the purpose of providing an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive not being adversely affected by the silicone-free release liner – as taught by Tokunaga et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified Yamamoto et al. to include a polyester adhesive and a polyacrylate adhesive in contacting relationship to the silicone free laminate as taught by Tokunaga et al. in order to provide an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive ultimately not being adversely affected by the silicone-free release liner.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adamko et al. (#5,948,517) in view of *Determination of Branching Distributions in Polyethylene and Ethylene Copolymers* (hereinafter *branching Distributions*).

Adamko et al. teach a silicone free release film for an adhesive sheet wherein the silicone free release film is a copolymer of a linear ethylene resin and an alpha olefin comprising between 3 and 12 carbon atoms (see Abstract; Col. 2, lines 39-51; Col. 3, lines 4-11). The linear ethylene resin is 50-100% of the resin material (Col. 3, lines 59-60 – since the alpha olefins comprise 1-10%, the linear polyethylene implicitly comprises about 90-100% of the composition (it is noted that several other additives may be included in the composition in small amounts)).

Adamko et al. fail to explicitly teach that the material shows a specific amount of an eluted component at not more than 30°C as measured by a TREF method. It was notoriously well known in the art at the time Applicant's invention was made, however, that a TREF method is an analysis of the compositional variation of a polymer composition independent of the molecular weight of the components as evidenced by *Branching Distributions* (p.441, 2nd paragraph under "Introduction"). *Branching Distributions* states that crystallinity in

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polyethylenes is directly related to the degree of branching (p.442) and that commercial resins are observed to exhibit a wide range of densities as a result of their differing branching levels (p.442). Adamko et al. teaches that the density of the polyethylene is modifiable within the range of 0.865 to 0.9 grams per cubic centimeter (Col. 1, lines 4-11) and that the crystallinity of the composition can be controlled through metallocene catalysis (which controls the orientation of the composition and create a uniform compositional distribution) (Col. 4, lines 15-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified either the density or degree of crystallinity of the linear polyethylene in Adamko et al. such that the amount of an eluted component falls within the Applicant's claimed range. It would have been obvious to make such a modification since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The Examiner further notes that an apparently old composition cannot be converted into an unobvious one simply by the discovery of a characteristic that one cannot glean from the cited prior art. *Titanium Metals Corporation v. Banner*, 227 USPQ 773. Furthermore, the Patent Office possesses the authority to require Applicant to prove prior art does not possess the characteristic relied upon. *In re Swinehart et al.*, 169 USPQ 226.

4. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adamko et al. ('517) in view of *Branching Distributions*, and further in view of Tokunaga et al. ('006).

Adamko et al. and *Branching Distributions* teach a silicone-free release film with an adhesive layer as detailed above. The aforementioned prior art fails, however, to explicitly teach

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the use of a polyester adhesive comprising aliphatic polycarbonate diol or a polyacrylate adhesive.

Tokunaga et al., however, teach the use of an adhesive layer on a silicone free polyethylene laminate sheet (Col. 11, line 65 to Col. 12, line 8) wherein the adhesive layer comprises a polyester adhesive with aliphatic polycarbonate diol as an essential polyol component (see Abstract; Col. 5, lines 12-27) and further comprises a polyacrylate component (Col. 7, lines 15-27 and Col. 9, lines 46-67). Tokunaga et al. teach the use of the aforementioned adhesive composition for the purpose of providing an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance (Col. 7, lines 38-47). Tokunaga et al. teach the use of a silicone free polyethylene laminate for the purpose of providing a release sheet that does not adversely affect adhesives that are ultimately used for electronic components while also providing a material that is excellent in recyclability (Col. 12, lines 25-36). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time Applicant's invention was made to have provided a silicone-free release sheet with a polyester adhesive with aliphatic polycarbonate diol and polyacrylate for the purpose of providing an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive not being adversely affected by the silicone-free release liner – as taught by Tokunaga et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the aforementioned prior art to include a

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polyester adhesive and a polyacrylate adhesive in contacting relationship to the silicone free laminate as taught by Tokunaga et al. in order to provide an adhesive composition that exhibits a high adhesive strength while having a high modulus of elasticity and being tack free at room temperature while also exhibiting excellent heat and weather resistance – the adhesive ultimately not being adversely affected by the silicone-free release liner.

Response to Arguments

5. Pursuant to the Applicant's amended claims and remarks, the Examiner has withdrawn all claim objections and rejections from the previous office action. Therefore, Applicant's arguments with respect to claims 3-8 have been considered but are moot in view of the new ground(s) of rejection above. It is noted that the claims remain rejected over Adamko et al. ('517) but since the rejection was modified, the rejection from the previous office action is withdrawn.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 703-305-3144. The examiner can normally be reached on M-F, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 703-308-4251. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


BPE 12/15/03


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

12/17/03